



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,966	10/24/2003	Mark A. Cleveland	024.0029	1845

29906 7590 08/28/2006

INGRASSIA FISHER & LORENZ, P.C.
7150 E. CAMELBACK, STE. 325
SCOTTSDALE, AZ 85251

EXAMINER

PARSLEY, DAVID J

ART UNIT	PAPER NUMBER
----------	--------------

3643

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,966

Applicant(s)

CLEVELAND, MARK A.

Examiner

David J. Parsley

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11,21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7-10-06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Detailed Action

Amendment

1. This office action is in response to applicant's amendment dated 7-11-06 and this action is final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations of the female member clamping and holding the male member without any fastening mechanism as seen in lines 17-18 of claims 21-22 is not disclosed in applicant's disclosure in that as seen in applicant's drawing figure 7 the projections in the male and female members – at 711-713, mate to hold the male and female members to one another and thus these projections are fastening mechanisms. If applicant were to include language such as - external fastening mechanism- -, than this rejection can be overcome in that the projections

in the male and female members – at 711-713 shown in applicant's figure 7 are integral with the male and female members.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, and 4-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear to how only one projection on the male member can fit between only one projection in each half of the female member. If only one projection were on the male and female members the projections can be in contact and mate but cannot fit between each other.

Claims 2 and 4-11 depend from rejected claim 1 and include all of the limitations of claim 1 thereby rendering these dependent claims indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0196544 to Comtesse in view of U.S. Patent No. 5,129,306 to Fauvel.

Referring to claim 1, Comtesse discloses a low shock separation joint for coupling a first structure to a second structure comprising, a male member – at 14,32,34,36, having a first side with a first major surface – on one side (either right or left), and a second side, opposite the first side with a second major surface – (on the other of the right or left), wherein at least one projection – at 32,36, or 34 is formed on and extends from the first and second major surface – see for example figure 1, a split female member – at 10,12, having a first half structure – at 12, and a second half structure – at 10, the first half structure including a first flange – at the upper portion of 12, and the second half structure including a second flange – at 40,50, wherein at least one projection is formed on and extends from each of the first and second flange – see – at the upper portion of 12 and – at 50 in figure 1, wherein surfaces of the at least one projection on the first and second flange are respectively mated to surfaces of the at least one projection on the first and second major surfaces of the male member – see figures 1-2, to prevent separation of the separation joint under tensile and compressive forces – see figures 1-2, and the female member being configured to clamp and hold the male member without any fastening mechanism holding the first flange and the second flange to the male member – see figures 1-2, a cavity – at 20, formed within the female member when the first half structure and the second half structure are placed together – see figures 1-3, the first and second flanges extending away from the cavity – see figures 1-3, and the female member separating the cavity from the male member when the first half structure and the second half structure are placed together – see figures 1-3, and an

Art Unit: 3643

explosive device – at 16, within the cavity of the female member – see figures 1-3, the explosive device when detonated releases the male member from the female member – see figure 3, by bending and physically modifying the second flange away from the male member – see figure 3, without causing breakage of any component of the separation joint – see for example figures 1-3. Comtesse does not disclose bending and physically modifying the first flange. However, this is an intended use/functional limitation in an apparatus claim and it is deemed that the device of Comtesse is capable of performing the function of bending and physically modifying the first flange in that the pyrotechnic tube – at 16, expands to contact the inner walls of the first flange – at 12 as seen in figure 3, and therefore provides forces acting upon the flange – at 12 which can at least cause some bending or strain on the first flange. Comtesse does not disclose first and second half structures of the female member are symmetrical and that the projections on the female member fit between the projection on the male member. Fauvel does disclose the first and second half structures – at 6,7, of the female member are symmetrical – see figure 3, and the projections on the female member – see at the inner surfaces of items 6 and 7, mate and fit between the projections on the male member – at 5 or 11 – see figure 3. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Comtesse and add the female and male projections mating of Fauvel, so as to allow for the male and female members to be securely held to each other.

Referring to claim 2, Comtesse as modified by Fauvel further discloses the female member – at 10,12, includes a mount – see at the bottom of 12, for attachment to the first structure – see figures 1-2 of Comtesse.

Referring to claim 8, Comtesse as modified by Fauvel further discloses the explosive device – at 16, has a first volume – see figures 1-2 of Comtesse, within the cavity – at 20, of the female member prior to detonation, wherein the explosive device has a second volume after detonation – see figure 3 of Comtesse, and wherein the second volume is greater than the first volume – see for example figures 1-3 of Comtesse.

Referring to claim 9, Comtesse as modified by Fauvel further discloses the explosive device includes an expandable housing – at 16, around an explosive material – see figures 1-3 of Comtesse, and wherein the expandable housing does not rupture when the explosive material is detonated – see figures 1-3 of Comtesse.

Referring to claim 10, Comtesse as modified by Fauvel further discloses the male member further includes a mount – see at 34, for attachment to the second structure – see for example figures 1-2 of Comtesse.

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comtesse as modified by Fauvel as applied to claim 1 above, and further in view of U.S. Patent No. 5,735,626 to Khatiblou et al.

Referring to claim 4, Comtesse as modified by Fauvel does not disclose a clevis is formed for receiving the first structure when the first and second half structures of the female member are coupled together and wherein the clevis comprises a portion of both the first and second half structures of the female member. Khatiblou et al. does disclose a clevis – see between items 28,30, in figures 1-3, for receiving the first structure – at 16, when the first and second half structures of the female are coupled together and wherein the clevis comprises a portion of both the first and second half structures of the female member – see for example

Art Unit: 3643

figures 1-3. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Comtesse as modified by Fauvel and add the clevis connection of Khatiblou et al., so as to allow for the female member to be securely held to the first structure.

Referring to claim 5, Comtesse as modified by Fauvel and Khatiblou et al. further discloses the male member is placed between the first and second flanges and wherein fastening the first structure to the female member couples the female member to the male member – see at 10,12,14 in figures 1-3 of Comtesse.

Referring to claim 6, Comtesse as modified by Fauvel and Khatiblou et al. further discloses the at least one projection of the first and second flange mated respectively to the surfaces of the projection of the first and second major surface of the male member are non-locking – see for example at 32,36,22,40,50 in figures 1-3 of Comtesse.

Referring to claim 7, Comtesse as modified by Fauvel and Khatiblou et al. further discloses the explosive device when detonated bends the first and second flange – at 38, away from the male member – at 14 – see for example figures 1-3 of Khatiblou et al. and wherein the first and second flange move in an arc away from the male member – see for example figures 1-3 of Khatiblou et al. where the flanges – at 38, must bend and physically change shape/orientation to disengage the projections – at 40-44 from the projections of the male member – at 50,54. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Comtesse as modified by Fauvel and Khatiblou et al. and add the bending of the female flanges of Khatiblou et al., so as to allow for the device to not break into projectiles that may hit the item begin launched during use.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comtesse as modified by Fauvel as applied to claim 1 above, and further in view of U.S. Patent No. 4,879,941 to Repe et al. Referring to claim 11, Comtesse as modified by Fauvel does not disclose the female member comprises a deformable metal. Repe et al. does disclose the female member – at 2,3,7, comprises a deformable metal – see for example figures 2-4 of Repe et al. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Comtesse as modified by Fauvel and add the female member comprising a deformable metal, so as to allow for the device to be both durable and flexible.

Allowable Subject Matter

5. Claims 21-22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Regarding claim 1, the Comtesse reference US 2003/0196544 does disclose a male member – at 14,32,34,36, having a first side with a first major surface – on one side (either right or left), and a second side, opposite the first side with a second major surface – (on the other of the right or left), wherein at least one projection – at 32,36, or 34 is formed on and extends from the first and second major surface as seen for example in figure 1. Further, with regard to the

arguments that the Comtesse reference does not disclose symmetrical halves of the female member and projections on the female member fitting between and mating with the projections on the male member, these arguments are moot in view of the new grounds of rejection using the Fauvel reference US 5129306.

Regarding claims 4-7, the Khatiblou et al. reference is not used to disclose the male member and the female member clamp one another without any fastening mechanism and therefore this argument is moot. Further, Khatiblou et al. discloses the explosive device when detonated bends the first and second flange – at 38, away from the male member – at 14 – see for example figures 1-3 where the flanges – at 38, must bend and physically change shape/orientation to disengage the projections – at 40-44 from the projections of the male member – at 50,54. Further, the device of Comtesse as seen – at 14 in figure 1 is similar in structure and function to that of the device – at 28,30,16 in figure 1 of Khatiblou et al. and thus it is deemed that the combination of the Comtesse and Khatiblou et al. references is proper given the motivation to combine these references found above in paragraph 4 of this office action.

Regarding claim 11, applicant argues that the Repe reference US 4879941 does not compensate for the shortcomings of the Comtesse reference but does not elaborate on how the Repe reference does not compensate for these shortcomings, therefore this argument is moot.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Parsley whose telephone number is (571) 272-6890. The examiner can normally be reached on Monday-Friday from 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



David Parsley
Patent Examiner
Art Unit 3643



PETER M. POON
SUPERVISORY PATENT EXAMINER

8/23/06